



## Spring Drives for Circuit-Breakers up to 800 kV and Driving Energies up to 12 000 J

GE Vernova makes the most of 80 years of experience in design, material selection, development, engineering, manufacturing and servicing of circuit-breaker drives.

### Safety First

- Pure-spring design, without pressurized oil

### Utmost Experience

- First drives implemented in 1934
- Over 250 000 drives in use

### Highest Reliability

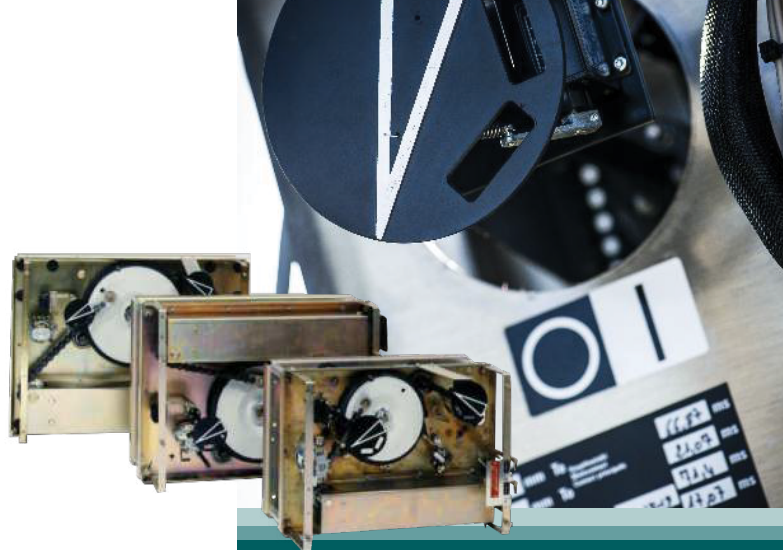
- Confirmed by IEC/CIGRE
- Field-proven under all operating conditions

### Longest Life Duration

- Negligible maintenance costs
- Life-cycle up to 60 years

### Outstanding Features

- Energy stability over decades
- Energy independent of temperature, from -50°C to +50°C
- Minimum time scattering



### Key Benefits

- Maximum safety
- Field-proven reliability
- First-class availability
- Low total cost of ownership



## Applications



550 kV live-tank CB



Generator CB



550 kV dead-tank CB



170 kV live-tank CB



170 kV live-tank CB with single-pole operation



245 kV GIS CB



145 kV GIS CB



420 kV GIS single-break CB



145 kV hybrid switchgear



550 kV GIS CB

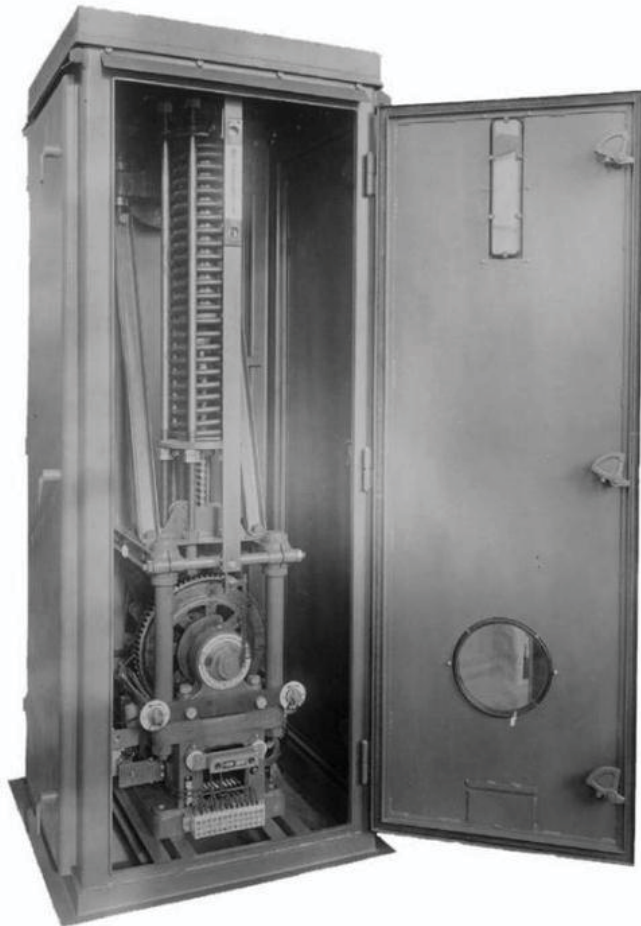
## CIGRE Promotes Spring Mechanisms

CIGRE, general report for high-voltage equipment, table IX, provides reliability data for different types of operating mechanism for SF<sub>6</sub> high-voltage and generator circuit-breakers.

Such data are summarised in the here-below table:

Major failure rate per 100 CB.years		
Types of operating mechanism	CIGRE	GE VERNOVA
Hydraulic/Hydro-mechanical spring	0.19	/
Pneumatic	0.13	/
Spring	0.11	0.04

GE Vernova's spring mechanisms are approximately five times more reliable than hydraulic and hydro-mechanical spring mechanisms and three times more reliable than spring drives from others.



Old Spring Mechanism, 1934

## Quality

Eight decades of experience are continuously supporting the implementation of total quality throughout the entire spring drive process, from engineering to operation, then after-sales.



Spring mechanism routine test station

For more information, visit  
[gevernova.com/grid-solutions](https://gevernova.com/grid-solutions)

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